

Case Studies in Environmental Medicine:

Radon Toxicity

Course Goal: To increase the primary care provider's knowledge of hazardous substances in the environment and to aid in the evaluation of potentially exposed patients.

Objectives

- Discuss the major exposure route for radon.
- Describe two potential environmental and occupational sources of exposure to radon.
- State two reasons why radon is a health hazard.
- Describe three factors that contribute to radon toxicity.
- Identify evaluation and treatment protocols for persons exposed to radon.
- List two sources of information on radon.

Tell Us About Yourself

Please carefully read the questions. Provide answers on the answer sheet (page 31). Your credit will be awarded based on the type of credit you select.

1. What type of continuing education credit do you wish to receive?

****Nurses should request CNE, not CEU. See note on page 30.**

- A. CME (for physicians)
- B. CME (for non-physicians)
- C. CNE (continuing nursing education)
- D. CEU (continuing education units)
- E. [Not used]
- F. [Not used]
- G. [Not used]
- H. None of the above

2. Are you a...

- A. Nurse
- B. Pharmacist
- C. Physician
- D. Veterinarian
- E. None of the above

3. What is your highest level of education?

- A. High school or equivalent
- B. Associate, 2-year degree
- C. Bachelor's degree
- D. Master's degree
- E. Doctorate
- F. Other

- 4. Each year, approximately how many patients with radon exposure do you see?**
- A. None
 - B. 1–5
 - C. 6–10
 - D. 11–15
 - E. More than 15
- 5. Which of the following best describes your current occupation?**
- A. Environmental Health Professional
 - B. Epidemiologist
 - C. Health Educator
 - D. Laboratorian
 - E. Physician Assistant
 - F. Industrial Hygienist
 - G. Sanitarian
 - H. Toxicologist
 - I. Other patient care provider
 - J. Student
 - K. None of the above
- 6. Which of the following best describes your current work setting?**
- A. Academic (public and private)
 - B. Private health care organization
 - C. Public health organization
 - D. Environmental health organization
 - E. Non-profit organization
 - F. Other work setting
- 7. Which of the following best describes the organization in which you work?**
- A. Federal government
 - B. State government
 - C. County government
 - D. Local government
 - E. Nongovernmental agency
 - F. Other type of organization

Tell Us About the Course

- 8. How did you obtain this course?**
- A. Downloaded or printed from Web site
 - B. Shared materials with colleague(s)
 - C. By mail from ATSDR
 - D. Not applicable

- 9. How did you first learn about this course?**
- A. State publication (or other state-sponsored communication)
 - B. *MMWR*
 - C. ATSDR Internet site or homepage
 - D. PHTN source (PHTN Web site, e-mail announcement)
 - E. Colleague
 - F. Other
- 10. What was the most important factor in your decision to obtain this course?**
- A. Content
 - B. Continuing education credit
 - C. Supervisor recommended
 - D. Previous participation in ATSDR training
 - E. Previous participation in CDC and PHTN training
 - F. Ability to take the course at my convenience
 - G. Other
- 11. How much time did you spend completing the course, and the evaluation and posttest?**
- A. 1 to 1.5 hours
 - B. More than 1.5 hours but less than 2 hours
 - C. 2 to 2.5 hours
 - D. More than 2.5 hours but less than 3 hours
 - E. 3 hours or more
- 12. Please rate your level of knowledge before completing this course.**
- A. Great deal of knowledge about the content
 - B. Fair amount of knowledge about the content
 - C. Limited knowledge about the content
 - D. No prior knowledge about the content
 - E. No opinion
- 13. Please estimate your knowledge gain after completing this course.**
- A. Gained a great deal of knowledge about the content
 - B. Gained a fair amount of knowledge about the content
 - C. Gained a limited amount of knowledge about the content
 - D. Did not gain any knowledge about the content
 - E. No opinion

Please use the scale below to rate your level of agreement with the following statements (questions 14–25) about this course.

- A. Agree
- B. No opinion
- C. Disagree
- D. Not applicable

- 14. The objectives are relevant to the goal.**
- 15. The tables and figures are an effective learning resource.**
- 16. The content in this course was appropriate for my training needs.**
- 17. Participation in this course enhanced my professional effectiveness.**
- 18. I will recommend this course to my colleagues.**
- 19. Overall, this course enhanced my ability to understand the content.**
- 20. I am confident I can discuss the major exposure route for radon.**
- 21. I am confident I can describe two potential environmental and occupational sources of exposure to radon.**
- 22. I am confident I can state two reasons why radon is a health hazard.**
- 23. I am confident I can describe three factors that contribute to radon toxicity.**
- 24. I am confident I can identify evaluation and treatment protocols for persons exposed to radon.**
- 25. I am confident I can list two sources of information on radon.**

Posttest

If you wish to receive continuing education credit for this program, you must complete this posttest. Each question below contains five suggested answers, of which one or more is correct. Choose all correct answers for each question.

26. In the United States today, the primary contributors to lung cancer deaths are

- (A) physical exercise
- (B) smoking
- (C) household pesticides
- (D) lead
- (E) radon.

27. Known health effect(s) due to residential radon exposure include

- (A) headache
- (B) dizziness
- (C) birth defects
- (D) lung cancer
- (E) leukemia.

28. Radon levels

- (A) can be accurately predicted using building location, age, and type of construction
- (B) can be measured using a variety of radon detectors
- (C) will cause no health effects if less than 4 pCi/L
- (D) are always highest in the basement
- (E) if elevated, increase the risk of lung cancer in smokers more than that in nonsmokers.

29. Radon mitigation might include

- (A) increasing ventilation in the building
- (B) sealing foundation cracks
- (C) subslab depressurization
- (D) depressurizing the building
- (E) opening crawl space vents.

30. Characteristics of radon include the fact(s) that it

- (A) is colorless
- (B) has a mild, sweet odor
- (C) has a half-life of 30 minutes
- (D) decays to isotopes that emit alpha radiation
- (E) is produced by decay of radium.